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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/756,407

01/14/2004

Kouta Fukui

FS-F03223-01

2618

37398

7590

11/28/2006

TAIYO CORPORATION
401 HOLLAND LANE
#407
ALEXANDRIA, VA 22314

EXAMINER

CHEA, THORL

ART UNIT

PAPER NUMBER

1752

DATE MAILED: 11/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/756,407

Applicant(s)

FUKUI, KOUTA

Examiner

Thorl Chea

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 7 and 10-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 10-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This office action is responsive to the communication on September 20, 2006; claims 1-4, 6-7, 10-19 are pending; and claims 5, 8-9 have been canceled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-7, 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of EP 1168066 (EP'066) in view of Siga et al (US Patent No. 4,332,889) and Hirabayashi (US 2002/0123016A1).

EP'066 discloses a photothermographic material as a whole wherein the material containing photosensitive silver halide, a non-photosensitive organic silver salt, a reducing agent, a binder and a silver-saving agent, and wherein the material exhibit an average contrast of 2.0 to 6.0. See the silver halide include any one of silver chloride, silver chlorobromide, silver iodochlorobromide, silver bromide, silver iodobromide and silver iodide on page 5, lines 24-25; the silver saving agent on page 8, formula [H], (G), (P); the reducing agent such as bisphenols reducing agent on page 13, [0077] and 1-1-bis(2-hydroxy-3,5,5-trimethylhexane on page 64, [0225]; Table 2-1 to 2-4 on pages 77-80 which exemplified two light sensitive layer, wherein the lower contains silver saving agent; and the image gradation on page 70, Table 1 having value from 2.9 to 3.5. Page 38, [0115] discloses that "it is preferred to use sensitizing dyes exhibiting

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spectral sensitivity suitable for spectral characteristic of light sources of various laser imager or scanner”.

Siga et al disclose in column 6, lines 43-68 the relative amount of the silver iodide with respect to silver bromide to satisfy the sensitivity condition and storage condition. It is disclosed that “from the view point of sensitivity of image forming material, the silver halide is desired to contains, beside silver iodide, at least 2 mole %, based on silver halide component, silver bromide and/or silver chloride, although the silver halide may include only silver iodide, i.e. 100 mole % of silver iodide. Furthermore, from view point of stability of the raw image forming material, it is desired that silver halide component contains, besides silver iodide, silver bromide than silver chloride. Therefore, the most preferred silver halide component consists of silver iodide and silver bromide. In this case, silver iodide and silver bromide may be provided in either a mixture thereof or mixed crystals thereof. The molar ratio of silver iodide to silver bromide may be preferably 30/70 to 98/2, more preferably 50/50 to 95/5.” Hirabayashi discloses a photothermographic material having absorption maximum at 350 nm to 450 nm and different type of laser light source conventional used in the process of exposing the photothermographic material such as coherent light such as green laser of 500 nm to 600 nm and long wave laser such having emission in the near infrared region. Hirabayashi discovered that “after subjected to thermal processing, the sensitizing dyes remains on halftone dot images, producing problem that dot image quality or linearity is lowered, resulting to so called deterioration due to the remaining dye stain. It was found that the use of recently developed short wave laser having an emission at 350 nm to 450 nm to halftone dot images on the photothermographic material resulted in

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superior images to those obtained by commonly known long wave laser, without causing stains.

See page 1, [0005].

EP'066 suggest the use of silver iodide and the use sensitizing dyes exhibiting spectral sensitivity suitable for spectral characteristic of light sources of various laser imager or scanner to spectrally sensitize the silver halide emulsion, but fails to exemplified the use of the silver iodide in the photothermographic material or a use laser light source having wavelength of 350 nm to 450 nm to exposed the photothermographic material or a photothermographic material that is capable of forming an image using laser light source having wavelength of 350 nm to 450 nm. The photothermographic material exemplified in EP'066 is exposed to laser source having wavelength in the infrared region and the silver halide emulsions are spectrally sensitize in the IR region to match the wavelength of the laser source. However, the selection of silver halide such as silver iodide or the type of laser light source would have been found prima facie obvious in view of Siga et al and Hirabayashi. Siga et al discloses the composition halide containing silver iodide and silver bromide within molar ratio of 30/70 to 98/2 in order to balance the sensitivity and storage stability of the photothermographic material. The silver halide having iodide content is less sensitive to light as a result it provides more stability to the photothermographic material. Hirabayashi teaches that the problem associates with photothermographic material containing infrared dye and the improvement of photothermographic material that is sensitive to wavelength of 350 nm to 450 nm in term of superior halftone dot image.

It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use the silver iodide taught in EP'066 or silver halide having composition taught in

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Siga et al in combination with the use of silver halide emulsion sensitive to laser light having wavelength of 350 nm to 450 nm to provide a photothermographic material with superior halftone dot image, and thereby provide a material as claimed.

Response to Arguments

4. Applicant's arguments filed January 17, 2006 have been fully considered but they are not persuasive for the reason set forth in the above rejection and the response to the applicants' argument in the office action dated April 4, 2006. EP'066 may not disclose the material which is sensitive to a laser source having wavelength of 350 nm to 450 nm, but on page 38, [0116] discloses the use of sensitizing dyes exhibiting spectral sensitivity suitable to spectral characteristic of light source of various laser imager or scanner. Hirabayashi discloses the use of laser light source having emission with the wavelength region of 350 nm to 450 nm to obtain superior images to those obtained by commonly known long wave laser, without causing stains on page 1, [0005]. EP'066 material on page 8, [0043] requires silver-saving agent in order to reducing the silver amount necessary to obtain prescribed density. Therefore, the worker of ordinary skill in the art would have spectrally sensitize the silver halide of EP'066 within the wavelength of 350 nm to 450 nm in order to obtain a superior image knowing its superiority over longer wavelength in combination with the use of silver saving in order to reducing the amount of silver necessary to obtain prescribed density.

The argument with respect to the unexpected results is not persuasive since results are not related to the closest prior art of record, especially EP'066 that require the silver saving agent in the photothermographic material. The comparative samples presented in the Declaration on June 14, 2005 does not contain silver saving agent required by EP'066. Therefore, it cannot be

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concluded that the claimed material is better than that disclosed in EP'066. The silver iodide which is within the scope of 100 mole % iodide is disclosed in EP'066, and the worker of ordinary skill in the art would have selected the silver iodide or silver bromiodide having iodide content within the scope of Siga to balance the sensitivity and the storage stability of the photothermographic material. The results related to print-out and stock storability shown in the Declaration would have unexpected by the worker of ordinary skill in the art by the use of silver halide having high silver iodide content. The quality of tone and brightness cannot determine since there is no numerical data to determine whether the different in value of the tone and the brightness of the inventive samples and comparative sample is significant enough to conclude the unexpected results. Siga is used merely to provide an explanation as to why the worker of ordinary skill in the art would have selected the silver iodide taught in EP'066. Hirabayashi et al also used to support as to why the worker of ordinary skill in the art would have motivate the use of laser having shorter wavelength. The applicants appears to argue the references separately. However, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tchth
2006-11-21


Thorl Chea
Primary Examiner
Art Unit 1752